

Assessment Schedule – 2007**Human Biology: Describe how humans respond to pathogens (90176)****Evidence Statement**

Question	Evidence Contributing to Achievement	Evidence Contributing to Achievement with Merit	Evidence Contributing to Achievement with Excellence
ONE (a)	Any TWO symptoms eg: <ul style="list-style-type: none"> • nausea • diarrhoea • stomach pain/cramp • headache • fever/chill • sore throat • more mucus • fatigue • aches • sweating • Swelling of lymph nodes Pain or redness must be related to site of infection.		
(b)	Describes exit of virus from one individual, or entry into another.	Links the exit of the virus from one person and links to the entry into another through a weak point in the defences: Person sneezes and virus becomes airborne : another person inhales virus, which can enter the body .	
(c)	Describes TWO of e.g.: <ul style="list-style-type: none"> • pathogens trapped in mucus • cilia move trapped pathogens upward • saliva/sweat has an enzyme (lysozyme) that inhibits/destroys pathogens • acid in the stomach kills pathogens • unbroken skin provides a barrier • sebum • commensals. Must be first line defence		
TWO	Describes the function of the memory cells. Eg. On 2nd exposure the memory cells recognise the pathogen. Not ‘remembers’.	Achieved and gives a reason for stronger and faster response. Eg. The antibodies can be made faster/before fall ill.	

THREE	<p>Describes TWO of:</p> <ul style="list-style-type: none"> • Phagocytes: (white blood cells) that engulf pathogen(s) Not 'eats' • Lymphocytes: (white blood cells) make antibodies against pathogens • Antibody: attaches to sites/proteins/antigens etc on pathogens • Antigen: a recognition site/protein etc on a pathogen OR Any substance that stimulates the immune response. <p><i>Evidence may be in text or diagrams.</i></p>	<p>Any THREE descriptions and gives a reason for how the pathogen is deactivated. Eg Antibodies will attach to the antigens of the pathogen. This disables the pathogen making them unable to reproduce.</p> <p><i>Evidence may be in text or diagrams</i></p>	<p>Describes all FOUR bullet points and relates how antigens, lymphocytes, antibodies and phagocytes are interlinked to fight off infection.</p> <p>Eg Antigens are proteins found on the outside of pathogens. Lymphocytes are stimulated by antigens to produce antibodies of a specific shape that will latch on to the antigens of the pathogen. This disables the pathogen making them unable to reproduce. Phagocytes then engulf the remains of the pathogen.</p>
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FOUR (a)	Describes ONE of: <ul style="list-style-type: none"> Newborn/baby gains immunity from mother's milk. Newborn/baby gains immunity across placenta. 		
(b)	Defines passive immunity, e.g. Introduction of ready-made antibodies OR Body attacks foreign antibodies.	Achieved and gives a reason why antibodies are not long lasting eg ONE of: <ul style="list-style-type: none"> Body does not have antigen exposure/memory cells so no more antibodies are produced. Body breaks down injected antibodies as they are foreign and no more antibodies are made. Body treats foreign antibodies as pathogens/lymphocytes & phagocytes attack injected antibodies. 	
(c)	Describes a vaccine that gives active immunity, eg: Vaccine of weakened/dead pathogen triggers antibody production/immune response. Not 'small amount of pathogen'	Achieved and give a reason for why the vaccine works OR it being long lasting eg: Person given a vaccine of dead/weakened/pathogen which does not cause the disease but stimulates an immune response – antibodies produced. OR Because antibodies are produced and memory cells remain in the body in case a subsequent invasion of the same pathogen occurs.	Discusses the active immunity, its response and relates it to effectiveness, Ie BOTH merit examples linked

Judgement Statement

Achievement	Achievement with Merit	Achievement with Excellence
FIVE opportunities answered at Achievement level or higher. 5 × A	SIX opportunities answered with THREE at Merit level or higher. 3 × A + 3 × M	SEVEN opportunities answered with at least ONE at Excellence level and TWO at Merit level. 4 × A + 2 × M + 1 × E